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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,810	08/28/2003	Avinash Jain	030159	9973

23696 7590 02/25/2009
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EXAMINER	
WONG, BLANCHE	
ART UNIT	PAPER NUMBER
2419	

NOTIFICATION DATE	DELIVERY MODE
02/25/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/651,810	JAIN ET AL.	
	Examiner	Art Unit	
	Blanche Wong	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 October 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-19,21-23 and 25-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-19,21-23,25-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *Oct24,08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 2-19, 21-23,25-37 have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

2. The information disclosure statement filed October 24, 2008 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

NPL #8 and #9 are missing. Examiner suggests providing copies of the references for consideration.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 16,18,22,25-34,36** are rejected under 35 U.S.C. 102(e) as being anticipated by Chen (US 2003/0007466.

With regard to claims 16,18,22, Chen discloses a method, an apparatus and a computer-readable medium **(hardware and sofware, para. [0068])** for scheduling **(Title)** comprising:

receiving a rate request **("The base station receives the request", para. [0041]) (*See Also* "subscriber stations ... sending a request command ...", para. [0054])**;

transmitting a rate assignment responsive to the rate request **(assigns) ("scheduler ... assigns the maximum schedule transmission rate...", para. [0042])**, the rate assignment indicating a scheduled duration **(time instance)** and a scheduled rate **(maximum transmission rate)** applicable for the scheduled duration **("the scheduling information may comprise a maximum transmission rate and time instance", para. [0056])**; and

receiving data fro the scheduled duration at the scheduled rate **(data transmission) ("data transmission at or below the maximum scheduled transmission rate", para. [0043])**,

wherein the schedule duration is less than or equal to a scheduling period, the scheduling period being an interval of time after transmission of the rate assignment **(data transmission is not possible and probable when the schedule duration is greater than the schedule period)**.

With regard to claim 25, Chen further discloses scheduling period that is variable **("the concept of a single variable rate channel, or multiple channels having a fixed rate, or a combination of variable and fixed rate channels, is within the scope of the present invention", para. [0056])**.

With regard to claim 26, Chen further discloses scheduling duration that is variable **("the concept of a single variable rate channel, or multiple channels having a fixed rate, or a combination of variable and fixed rate channels, is within the scope of the present invention", para. [0056])**.

With regard to claim 27, Chen further discloses scheduled rate that is variable **("the concept of a single variable rate channel, or multiple channels having a fixed rate, or a combination of variable and fixed rate channels, is within the scope of the present invention", para. [0056])**.

With regard to claim 28, Chen further discloses priority of a station **("priority of subscriber stations", para. [0055])**.

With regard to claims 29 and 30, Chen further discloses maximum supportable rate **(maximum transmission rate) ("the scheduling information may comprise a maximum transmission rate and time instance", para. [0056])**.

With regard to claim 31, Chen further discloses channel condition **("transmit power" "the listing of base stations with which the subscriber station can communicate", etc. para. [0055])**.

With regard to claim 32, Chen further discloses rate requested **(*See Also* "subscriber stations ... sending a request command ...", para. [0054])**.

With regard to claim 33, Chen further discloses an allocated throughput **("a maximum transmission rate ... in which each of the scheduled subscriber station may transmit", para. [0056])**.

With regard to claims 34 and 36, Chen further discloses

an antenna **(antenna 206, para. [0041])**;

a receiver **(base station 104, para. [0041])**;

a controller **(controller 110, para. [0038)**; and

a transmitter **(base station 104, para. [0041])**.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen.

With regard to claim 23, Chen discloses the method of claim 16.

Official notice is taken that the limitation that the scheduled duration is an integer multiple of a minimum scheduled duration is well-known. First, the fact that it is called minimum scheduled duration is less that the scheduled duration. How much less is the integer multiple, that is, how many of the minimum scheduled duration. If the minimum scheduled duration is already the smallest useful partition, then a partial minimum schedule duration would be useless.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the scheduled duration is an integer multiple of a minimum scheduled duration, with Chen, for the benefit of maximizing the scheduled duration.

7. **Claims 17,19,21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pankaj (U.S. Pat No. 6,807,426) in view of Malmlof (U.S. Pat No. 6,594,241).

With regard to claims 17,19,21, Pankaj discloses a method, an apparatus and a computer-readable medium comprising:

transmitting a request **(requests for data transmission, col. 5, line 37)** for a rate **("a data request specifies the data rate at which the data is to be sent, the length of the data packet transmitted…", col. 5, lines 29-31)** if data arrives in a

buffer, data in the buffer exceeds a buffer depth **(based upon the remote station's associated instantaneous rate for receiving data, col. 6, lines 19-20)(*See Also* data queue for transmission, col. 6, line 32) (store and forward)**, and sufficient power **(quality)** exists to transmit at the rate requested **(the data rate based on the quality of the channel, col. 5, lines 32-33)**;

receiving a rate assignment responsive to the request for the rate **(a channel is established)**, the rate assignment indicating a scheduled duration and a scheduled rate applicable for the scheduled duration **(a channel is defined as the set of communication links ... within a given frequency assignment, col. 5, lines 22-25) (*See Also* Forward Link and Reverse Link, col. 5, lines 25-26)**; and

transmitting data **(data is transmitted/transmitting)**, the transmitting responsive to the rate assignment, wherein the data is transmitted for the scheduled duration at the scheduled rate **("The channel scheduler 812 schedules the variable rate transmissions on the forward link. ... The channel scheduler 812 preferably schedules data transmissions to achieve the system goal of maximum data throughput ...", col. 9, lines 11-18)**.

However, Applicant has stated that Pankaj fails to explicitly show the data in the buffer exceeds a buffer depth.

Malmlof discloses the data in the buffer exceeds a buffer depth **("to monitor the amount of data currently being stored in a transmission buffer", col. 2, liens 59-61)**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the data in the buffer exceeds a buffer depth as taught by Malmlof, with Pankaj, for the benefit of maximizing resources. Malmlof, col. 2, line 58-col. 3, line 4.

8. **Claims 2-15, 35 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pankaj and Malmlof as applied to claim 17,19,21 above, and further in view of Chen.

With regard to claim 2, the combination of Pankaj and Malmlof disclose the method of claim 17. However, the combination fails to explicitly show scheduling period that is variable.

Chen discloses scheduling period that is variable **("the concept of a single variable rate channel, or multiple channels having a fixed rate, or a combination of variable and fixed rate channels, is within the scope of the present invention", para. [0056])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine scheduling period that is variable as taught by Chen, with Pankaj and Malmlof, for the benefit of maximizing resources.

With regard to claim 3, the combination of Pankaj and Malmlof disclose the method of claim 17. However, the combination fails to explicitly show the schedule

duration is less than or equal to a scheduling period, the scheduling period being an interval of time after transmission of the rate assignment.

Official notice is taken that the limitation the schedule duration is less than or equal to a scheduling period, the scheduling period being an interval of time after transmission of the rate assignment is well-known because data transmission is not possible and probable when the schedule duration is greater than the schedule period.

At the time of the invention, it would have been obvious to a person of ordianry skill in the art to combine the schedule duration is less than or equal to a scheduling period, the scheduling period being an interval of time after transmission of the rate assignment is well-known because data transmission is not possible and probable when the schedule duration is greater than the schedule period, with Pankaj and Malmlof, for the benefit of enablement.

With regard to claim 4, the combination of Pankaj and Malmlof discloses the method of claim 3. However, the combination fails to explicitly show scheduling period that is variable.

Chen discloses scheduling period that is variable **("the concept of a single variable rate channel, or multiple channels having a fixed rate, or a combination of variable and fixed rate channels, is within the scope of the present invention", para. [0056])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine scheduling period that is variable as taught by Chen, with Pankaj and Malmlof, for the benefit of maximizing resources.

With regard to claim 5, the combination of Pankaj and Malmlof discloses the method of claim 3. However, the combination fails to explicitly show scheduling duration that is variable.

Chen discloses scheduling duration that is variable **("the concept of a single variable rate channel, or multiple channels having a fixed rate, or a combination of variable and fixed rate channels, is within the scope of the present invention", para. [0056])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine scheduling duration that is variable as taught by Chen, with Pankaj and Malmlof, for the benefit of maximizing resources.

With regard to claim 6, Pankaj further discloses schedule rate that is variable **("The channel scheduler 812 schedules the variable rate transmissions on the forward link. ... The channel scheduler 812 preferably schedules data transmissions to achieve the system goal of maximum data throughput ...", col. 9, lines 11-18)**.

With regard to claim 7, the combination of Pankaj, Malmlof and Chen discloses the method of claim 5. However, the combination fails to explicitly show priority of a station.

Chen further discloses priority of a station **("priority of subscriber stations", para. [0055])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine priority of a station as taught by Chen, with Pankaj and Malmlof, for the benefit of having a determinant way of resolving scheduling conflicts.

With regard to claims 8-9, the combination of Pankaj, Malmlof and Chen discloses the method of claim 5. However, the combination fails to explicitly show maximum supportable rate.

Chen further discloses maximum supportable rate **(maximum transmission rate) ("the scheduling information may comprise a maximum transmission rate and time instance", para. [0056])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine maximum supportable rate as taught by Chen, with Pankaj and Malmlof, for the benefit of having a determinant way of resolving scheduling conflicts.

With regard to claims 10 and 12, Malmlof further discloses estimate of amount of data in the buffer **("to monitor the amount of data currently being stored in a transmission buffer", col. 2, liens 59-61)**.

With regard to claim 11, the combination of Pankaj and Malmlof discloses the method of claim 5. However, the combination fails to explicitly show channel condition.

Chen discloses channel condition **("transmit power" "the listing of base stations with which the subscriber station can communicate", etc. para. [0055])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine channel condition as taught by Chen, with Pankaj and Malmlof, for the benefit of having a determinant way of resolving scheduling conflicts.

With regard to claim 13, Pankaj further discloses rate requested **(requests for data transmission, col. 5, line 37)**.

With regard to claim 14, Pankaj further discloses an allocated throughput **(throughput) ("The channel scheduler 812 schedules the variable rate transmissions on the forward link. ... The channel scheduler 812 preferably schedules data transmissions to achieve the system goal of maximum data throughput ...", col. 9, lines 11-18)**.

With regard to claim 15, the combination of Pankaj, Malmlof and Chen discloses the method of claim 7. Chen further discloses a mobile station **(subscriber stations 106, para. [0035])**.

With regard to claims 35 and 37, Chen further discloses

a controller **(controller 110, para. [0038])**;

an antenna **(subscriber stations 106, para. [0035])**;

a transmitter **(subscriber stations 106, para. [0035])**; and

a receiver **(subscriber stations 106, para. [0035])**.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Blanche Wong/
Examiner, Art Unit 2419
January 4, 2009

/Edan Orgad/
Supervisory Patent Examiner, Art Unit 2419